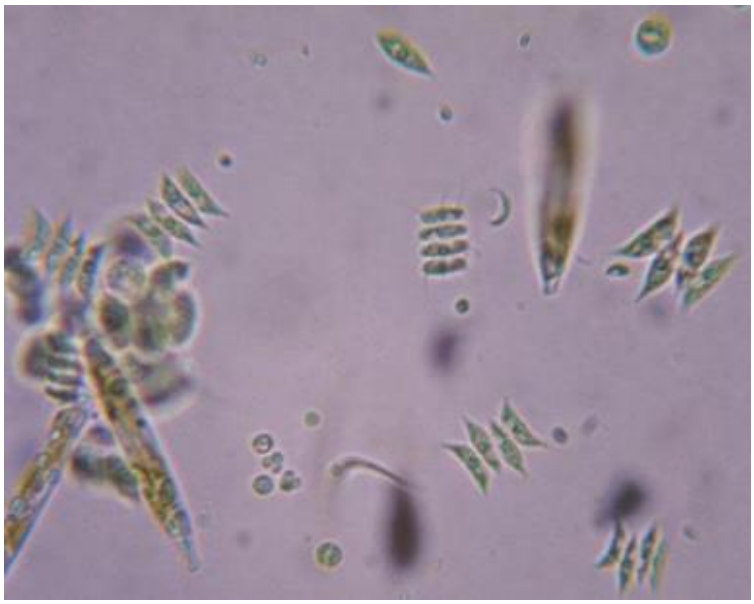
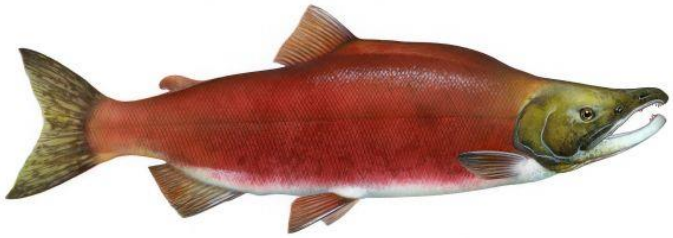
Salish Sea Intertidal Ecosystem Cards (print on same color poster paper)	
	**Phytoplankton: phyto= light** **phyto**plankton are microscopic plants that live in the top layers of the ocean. They use energy from the sun to grow. These small plants are very important to the ocean and to the whole planet! They are at the base of the food chain. Many small fish and whales eat them. Then bigger fish eat the little fish, etc. The food chain continues and at some point in time we (people) come into it when we eat the fish. So the energy of plankton becomes our energy too!
	Pacific Oyster (Crassostrea gigas) was introduced from Japan. Oysters are filter feeders who rely on plankton for food.

	Sea Otters eat crabs, snails, urchins, clams, mussels and other invertebrates
	**Zooplankton:** “zoo”= relating to animals Zooplankton are microscopic animals and the immature stages of larger animals.
	**Manila clams** were introduced to the Salish Sea from Japan. Clams are filter feeders who rely on plankton for food.

	The **Red Rock Crab is** a crawling crab and tends to move very little. Its short walking legs are covered in hair-like structures that function as sensory organs. Rock crabs are scavengers; their primary prey includes worms, clams, mussels, other crabs, and many other invertebrates.
	According to The Seattle Aquarium, the **Giant Pacific Octopus** hunt crabs, clams and mussels. They sneak up on their prey while using camouflage, jet propulsion and the agile grip that comes with having eight arms. The Giant Octopus has a parrot-like beak that snaps quickly and injects toxic saliva that paralyzes its prey and helps digest the flesh. The Octopus' tongue, called a radula, carves a neat hole in the prey's shell to extract the contents. Then, they place the shells in a pile called a midden outside the den.
	**I**n general, **young salmon** eat insects, invertebrates and plankton; adults eat other fish, squid, eels, and shrimp. Young salmon need an eelgrass habitat in an estuary (where the river meets the sea) for protection before heading out to the bigger ocean.

	This **sockeye salmon** is ready to spawn. It eats smaller fish, shrimp, and eels. **Tip: Get involved in efforts to protect and restore salmon habitat in your community. Chinook salmon are especially important to killer whale populations in the Salish Sea.
	**Orcas** are an **endangered** species; as of 2016 there are 78 Southern Resident killer whales left. These are the whales that stick around our Salish Sea all year rather than migrate to southern oceans. Orcas love to eat salmon, especially Chinook! Recent declines in killer whale population are linked to threats such as toxic pollution, and noise and disturbance from boat traffic.
 **Seawater temperature**	The average temperature of the Salish Sea is around 50 degrees Fahrenheit. Water temperature is an abiotic factor that definitely impacts which plants and animals can live here.

The amount of **eelgrass** present in an ecosystem is a **biotic factor** of the environment.

Don't Go, Dirt!
*Eelgrass traps dirt (so, the water stays more clear, for example),
*stabilizes the muddy ground (the substrate), and *reduces the force of wave energy (so crab don't get whisked across the sea, for example). All of these keep beaches from being washed away!

Nursery:
*Eelgrass beds provide foraging areas and shelter for fish. Baby animals are safer here!
*animals lay eggs on the grass

A sandy/muddy **substrate** (bottom layer)

The most common **substrates** or bottom layer found around the Salish Sea are this dense mud; sand; pebbles; rocks; and large boulders.

This is an abiotic factor that influence which plants and animals are successful here.